WHAT IS CLAIMED IS:

1. A network device comprising:
a tunnel classification stage.

2. The network device of claim 1, wherein said tunnel classification stage comprises:
a packet processing section, configured to classifying a packet based on a security group identifier (SGI) of said packet.

3. The network device of claim 2, wherein
said packet processing section is configured to forward said packet through a tunnel on which said packet is to be conveyed based on said SGI.

4. The network device of claim 3, wherein
said packet processing section is further configured to forward said packet through said tunnel based on information in a header of said packet.

5. The network device of claim 2, wherein said tunnel classification stage further comprises:
a security group identifier identification unit, coupled to said packet processing section; and
a tunnel classification unit, coupled to said packet processing section and said security group identifier identification unit.

6. The network device of claim 1, wherein a router comprises said tunnel classification stage.

7. The network device of claim 6, wherein said router further comprises:
a lookup unit.

8. The network device of claim 7, wherein said lookup unit comprises:
an access control list (ACL); and
a content-addressable memory, wherein

said content-addressable memory is coupled to said access control list, and

said content-addressable memory is configured to generate an index and to provide said index to said ACL.

9. The network device of claim 8, wherein said ACL comprises:

a plurality of ACL entries (ACEs), wherein

each of said ACEs comprises a tunnel identifier field and a security group identifier field.

10. A method comprising:

assigning a security group identifier (SGI) to a packet; and

classifying said packet based on said SGI.

11. The method of claim 10, further comprising:

determining whether said packet can be sent via a tunnel based on a result of said classifying said packet.

12. The method of claim 11, further comprising:

determining a routing of said packet, wherein said determining whether said packet can be sent via said tunnel is also based on said routing.

13. The method of claim 12, further comprising:

forwarding said packet via said tunnel, if forwarding a packet having said SGI via said tunnel is permitted.

14. The method of claim 11, wherein said determining comprises:

generating an index, wherein said index comprises said SGI; and

using said index to access an access control list (ACL), wherein said ACL includes information as to whether said packet can be sent via a tunnel.

15. The method of claim 14, wherein said information comprises:

an SGI field; and

a tunnel identifier field.

16. The method of claim 10, further comprising:
forwarding said packet from an ingress router to an egress router via a tunnel.

17. The method of claim 16, further comprising:
receiving said packet at said egress router; and
determining whether said packet can be forwarded by said egress router based on said SGI.

18. The method of claim 17, wherein said determining whether said packet can be forwarded further comprises:
determining whether said packet can be forwarded by said egress router based on said SGI, a destination of said packet and an identifier of said tunnel.

19. The method of claim 17, wherein said determining whether said packet can be forwarded further comprises:
generating an index into an access control list (ACL), wherein
said ACL comprises information regarding whether said packet can be forwarded by said egress router, and
said index includes said identifier of said tunnel; and
accessing said ACL using said index.

20. A computer system comprising:
a processor;
computer readable medium coupled to said processor; and
computer code, encoded in said computer readable medium, configured to
cause said processor to:
assign a security group identifier (SGI) to a packet; and
classify said packet based on said SGI.

21. The computer system of claim 20, wherein said computer code configured to cause said processor to classify said packet generates a classification of said packet, and said computer code is further configured to cause said processor to:

determine whether said packet can be sent via a tunnel based on said classification.

22. The computer system of claim 21, wherein said computer code is further configured to cause said processor to:

determine a routing of said packet, wherein said classification is also based on said routing.

23. The computer system of claim 22, wherein said computer code is further configured to cause said processor to:

forward said packet via said tunnel, if forwarding a packet having said SGI via said tunnel is permitted.

24. The computer system of claim 21, wherein said computer code configured to cause said processor to determine is further configured to cause said processor to:

generate an index, wherein said index comprises said SGI; and

use said index to access an access control list (ACL), wherein said ACL includes information as to whether said packet can be sent via a tunnel.

25. The computer system of claim 24, wherein said information comprises:

an SGI field; and

a tunnel identifier field.

26. The computer system of claim 20, wherein said computer code is further configured to cause said processor to:

forward said packet from an ingress router to an egress router via a tunnel.

27. The computer system of claim 26, wherein said computer code is further configured to cause said processor to:

receive said packet at said egress router; and

determine whether said packet can be forwarded by said egress router based on said SGI.

28. The computer system of claim 27, wherein said computer code configured to cause said processor to determine whether said packet can be forwarded by said egress router is further configured to cause said processor to:

determine whether said packet can be forwarded by said egress router based on said SGI, a destination of said packet and an identifier of said tunnel.

29. The computer system of claim 27, wherein said computer code configured to cause said processor to determine whether said packet can be forwarded by said egress router is further configured to cause said processor to:

generate an index into an access control list (ACL), wherein

said ACL comprises information regarding whether said packet can be forwarded by said egress router, and

said index includes said identifier of said tunnel; and

access said ACL using said index.

30. A computer program product comprising:

a first set of instructions, executable on a computer system, configured to assign a security group identifier (SGI) to a packet;

a second set of instructions, executable on said computer system, configured to classify said packet based on said SGI; and

computer readable media, wherein said computer program product is encoded in said computer readable media.

31. The computer program product of claim 30, wherein said second set of instructions is further configured to generate a classification of said packet, and further comprising:

a third set of instructions, executable on said computer system, configured to determine whether said packet can be sent via a tunnel based on said classification.

32. The computer program product of claim 31, further comprising:

a fourth set of instructions, executable on said computer system, configured to determine a routing of said packet, wherein said classification is also based on said routing.

33. The computer program product of claim 32, further comprising:

a fifth set of instructions, executable on said computer system, configured to forward said packet via said tunnel, if forwarding a packet having said SGI via said tunnel is permitted;

34. The computer program product of claim 31, wherein said third set of instructions comprises:

a first subset of instructions, executable on said computer system, configured to generate an index, wherein said index comprises said SGI; and

a second subset of instructions, executable on said computer system, configured to use said index to access an access control list (ACL), wherein said ACL includes information as to whether said packet can be sent via a tunnel.

35. The computer program product of claim 34, wherein said information comprises:

an SGI field; and

a tunnel identifier field.

36. The computer program product of claim 30, further comprising:
a third set of instructions, executable on said computer system, configured to forward said packet from an ingress router to an egress router via a tunnel.

37. The computer program product of claim 36, further comprising:
a third set of instructions, executable on said computer system, configured to receive said packet at said egress router; and
a fourth set of instructions, executable on said computer system, configured to determine whether said packet can be forwarded by said egress router based on said SGI.

38. The computer program product of claim 37, wherein said fourth set of instructions comprises:
a first subset of instructions, executable on said computer system, configured to determine whether said packet can be forwarded by said egress router based on said SGI, a destination of said packet and an identifier of said tunnel.

39. The computer program product of claim 37, wherein said fourth set of instructions comprises:
a first subset of instructions, executable on said computer system, configured to generate an index into an access control list (ACL), wherein
said ACL comprises information regarding whether said packet can be forwarded by said egress router, and
said index includes said identifier of said tunnel; and
a second subset of instructions, executable on said computer system, configured to access said ACL using said index.

40. An apparatus comprising:
means for assigning a security group identifier (SGI) to a packet; and
means for classifying said packet based on said SGI.

41. The apparatus of claim 40, further comprising:
means for determining whether said packet can be sent via a tunnel on based a result generated by said means for classifying said packet.

42. The apparatus of claim 41, further comprising:
means for determining a routing of said packet, wherein said result is also based on said routing.

43. The apparatus of claim 42, further comprising:
means for forwarding said packet via said tunnel, operable if forwarding a packet having said SGI via said tunnel is permitted.

44. The apparatus of claim 41, wherein said determining comprises:
means for generating an index, wherein said index comprises said SGI; and
means for using said index to access an access control list (ACL), wherein said ACL includes information as to whether said packet can be sent via a tunnel.

45. The apparatus of claim 44, wherein said information comprises:
an SGI field; and
a tunnel identifier field.

46. The apparatus of claim 40, further comprising:
means for forwarding said packet from an ingress router to an egress router via a tunnel.

47. The apparatus of claim 46, further comprising:
means for receiving said packet at said egress router; and
means for determining whether said packet can be forwarded by said egress router based on said SGI.

48. The apparatus of claim 47, wherein said means for determining whether said packet can be forwarded further comprises:

means for determining whether said packet can be forwarded by said egress router based on said SGI, a destination of said packet and an identifier of said tunnel.

49. The apparatus of claim 47, wherein said means for determining whether said packet can be forwarded further comprises:

means for generating an index into an access control list (ACL), wherein said ACL comprises information regarding whether said packet can be forwarded by said egress router, and

said index includes said identifier of said tunnel; and

means for accessing said ACL using said index.